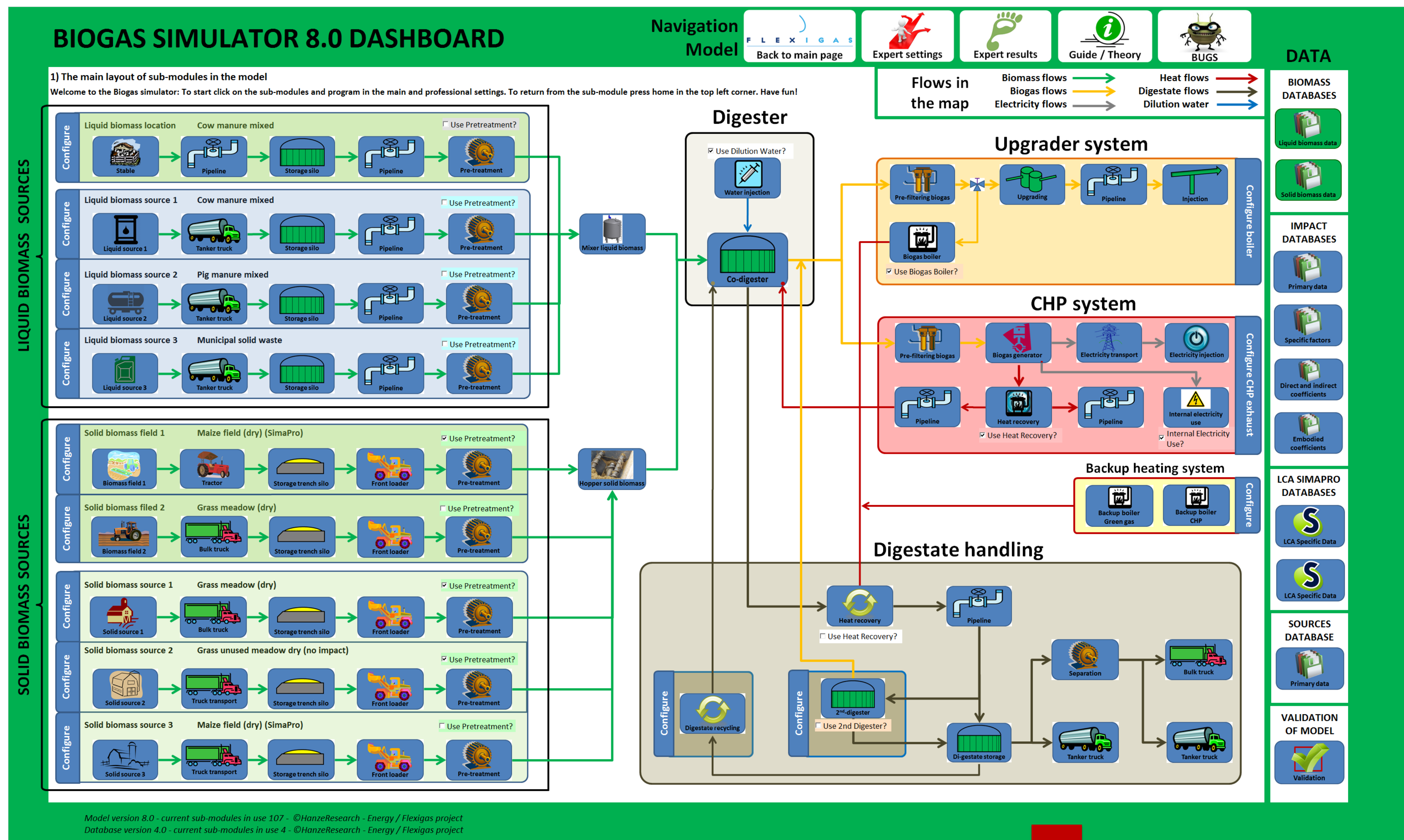


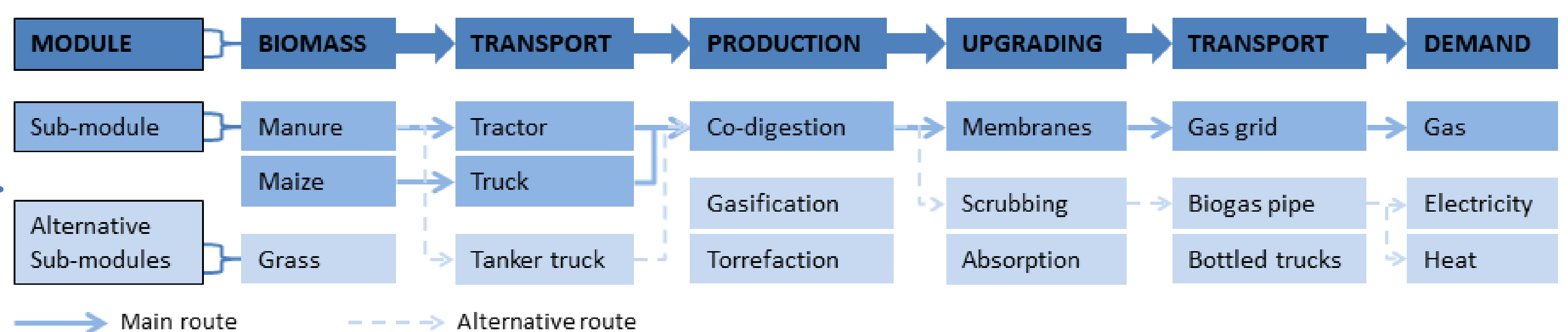
Modeling biogas production pathways

Analyze the efficiency, carbon footprint and environmental impact of anaerobic biogas production pathways



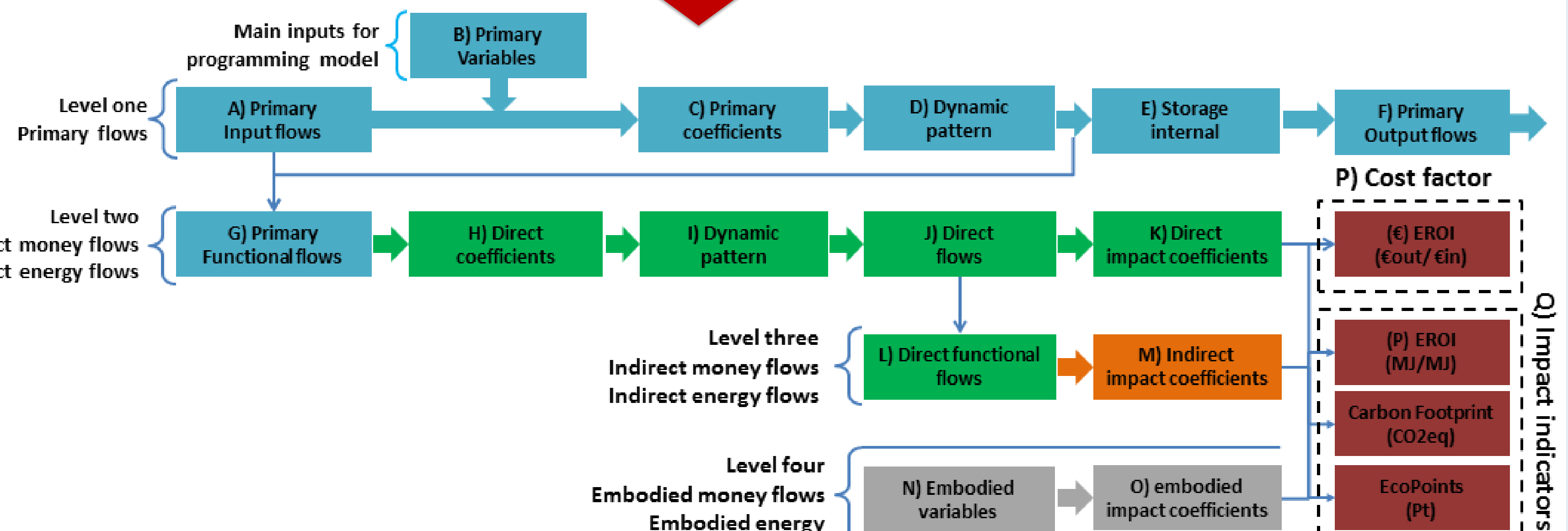
Modular approach

The biogas production pathway in the model is built up of a succession of sub-modules in logical order forming a chain. The modular approach can be used to design the optimum production pathway to suit particular cases, by changing, adding or removing individual sub-modules during the modeling process.



Methodology

Within each sub-module, one main physical process of the biogas production pathway is described. The model is based on the industrial metabolism concept described by the Material & Energy Flow Analysis (MEFA) method and extended by attributed Life Cycle Analysis (aLCA).



Biography

PhD. Researcher:

Frank Pierie MSc. B Eng



Currently, Frank is a PhD researcher at the Hanze University of Groningen. He graduated from the Hanze University with a B Eng. and holds a MSc. in energy and environmental sciences from the University of Groningen. He previously worked at Philips as a process engineer focused on sustainability.

Results

- Anaerobic digestion should use waste products locally.
- The produced energy should first be used to power the process.
- The energy remainder should be used for local balancing purposes

